

IN THE CLAIMS:

Please cancel Claims 1 - 23 and 25 - 46 without prejudice. Please amend Claim 24 and add new Claims 47 - 60 as follows.

1 - 23. (Cancelled)

24. (Currently Amended) ~~The A mask assembly formed by the method of claim 1~~ for use in electron beam lithography, wherein said mask assembly is formed by a method comprising the steps of:

forming a support structure that comprises a substrate that includes an initial plurality of windows;

filling the initial plurality of windows with a temporary fill material;

forming an additional plurality of windows in portions of said substrate which do not contain the temporary fill material;

filling the additional plurality of windows in the substrate with a temporary fill material;

forming over the filled-windowed substrate a mask; and

essentially completely removing the temporary fill material.

25 - 46. (Cancelled)

47. (New) A structure useful in electron beam lithography for controlling the irradiation of a semiconductor workpiece, said structure including a mask layer which is supported by a grid structure, said grid structure comprising a plurality of windows which permit the transmission of electron beam radiation passing through said masking layer, wherein a plurality of major struts and minor struts arranged in rows and columns define an array of windows, wherein said major struts

are several times thicker than said minor struts, and wherein said minor struts exhibit a width which does not interfere with transmission of electron beam radiation which has passed through said mask.

48. (New) A structure in accordance with Claim 47, wherein said mask comprises a patterned layer overlying a membrane, where said membrane permits electrons which pass through the patterned layer to pass through said membrane essentially without loss in electron beam energy.

49. (New) A structure in accordance with Claim 48, wherein the thickness of said membrane is less than about 1000 Angstroms.

50. (New) A structure in accordance with Claim 47, wherein said mask layer is a stencil mask.

51. (New) A structure in accordance with Claim 47, or Claim 48, or Claim 49, or Claim 50, wherein said plurality of struts is constructed from a ceramic material.

52. (New) A structure in accordance with Claim 51, wherein said ceramic material is selected from the group consisting of aluminum oxide and silicon carbide.

53. (New) A temporary structure useful in fabrication of an electron beam lithography mask, said temporary structure comprising:

a mask layer overlying a grid structure comprising a plurality of windows, wherein said windows are filled by a material which is essentially removed prior to use of said mask during irradiation of a semiconductor workpiece.

54. (New) A temporary structure in accordance with Claim 53, wherein said plurality of windows comprises a plurality of major struts and minor struts, and wherein said major struts are several times thicker than said minor struts.
55. (New) A temporary structure in accordance with Claim 53, wherein said mask comprises a patterned layer overlying a membrane, where said membrane permits electrons which pass through the patterned layer to pass through said membrane essentially without loss in electron beam energy.
56. (New) A temporary structure in accordance with Claim 55, wherein the thickness of said membrane is less than about 1000 Angstroms.
57. (New) A temporary structure in accordance with Claim 53, wherein said mask layer is a stencil mask.
58. (New) A temporary structure in accordance with Claim 54, wherein said plurality of struts is constructed from a ceramic material.
59. (New) A temporary structure in accordance with Claim 58, wherein said ceramic material is selected from the group consisting of aluminum oxide and silicon carbide.
60. (New) A temporary structure in accordance with Claim 58 or Claim 59, wherein said temporary fill material is selected from the group consisting of an epoxy, a polymer, a metal, or silicon oxide, wherein the selection of said temporary fill material depends on the selection of material used to construct said plurality of struts, so that said temporary fill material can be conveniently removed essentially without harm to said plurality of struts.